

Work Order ID 72291

Thursday, July 21, 2011 10:02:31 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2580-041

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

N/A

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

1 0 BEI/08/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:31 AM



Page 2

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
Skidtubes	Memo	0.00							
Skidtubes	1- Deburr ends and remove bending marks								
	2- Prepare tube for welding as per QSI 004								
130	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

S 11/09/12

⑦

11/09/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:31 AM



Page 3

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R ☐ ☐ Aluminum Rod

M115778 BE 11/08/15

2-Grind welds on step as per Dwg D2580

3-Weld spacers as per dwg D2580

AIR M115778 BE 11/08/15

3- *** N/A*** Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

} DL 11/08/15

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

DD 11-8-16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:31 AM



Page 4

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Subs 116

Quality Control

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Subs 116

Quality Control

170

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

IX m-10/08/17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:31 AM

Page 5

Item ID: D205-634-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00

Required Date: 8/10/2011 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8-30
320 OF
9-00

0.00

190

QC3- Inspect Part Finish

0.00



QC

Memo

Quality Control

0.00

HX Ø M-L 11/08/18

i d H 11/08/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:32 AM



Page 6

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00



HandFinish

0.00

Hand Finishing

Memo

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 1118393
Sikaflex expire date: 12/05

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 1118393
Sikaflex expire date: 12/055-Wing Walk as per Dwg D2580 and QSI 005 4.4
Batch: 1118313

1 p M 11/08/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72291

Thursday, July 21, 2011 10:02:32 AM



Page 7

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 7/21/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

5 ulac 131

220



Packaging

Packaging

Packaging

0.00

Memo

0.00

Identify and pack for shipping as per PPPD205-634-041
Location: _____
PPP Rev: _____PP 22291
72938

11/9/13

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

11/9/14

mf

11-09-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, July 21, 2011 10:02:38 AM

Page 1

Work Order ID: 72291

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1	D2579	Manufactured	No			140	Each	443.0000	20	20			



Spacer

Location	Loc Qty	Loc Code
LG002	443	
66929	106	
67129	196	
67308	1	
67430	140	

BE 11/08/15
B 72672 *20

D2580-1	Manufactured	No				110	Each	4.0000	1	1			
---------	--------------	----	--	--	--	-----	------	--------	---	---	--	--	--



205 Skidtube bent detail

Location	Loc Qty	Loc Code
LG	4	
71014	2	
71784	2	

BE 11/08/09
B 72638 *1

D2576-3	Manufactured	No				140	Each	44.0000	1	1			
---------	--------------	----	--	--	--	-----	------	---------	---	---	--	--	--



Step (maching detail)

Location	Loc Qty	Loc Code
LG	44	
66156	44	

BE 11/08/15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, July 21, 2011 10:02:38 AM

Work Order ID: 72291

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

200

Each

37.0000

1

1



Cap



u108130

Location

Loc Qty

Loc Code

FP007

37

53791

2

65519

2

65569

33

AN3-5A

Purchased

No

200

Each

1,051.000

2



u108130

Bolt

Location

Loc Qty

Loc Code

ST350

1051

115371

275

117423

776

AN960JD10L

NAS1149D0332J

Purchased

No

200

Each

0.0000

2



(x2) u108130

Washer

ALS7-1032-130

Purchased

No

200

Each

899.0000

50

50



u108130

Insert

Location

Loc Qty

Loc Code

ST282

899

117717

899

1118237

x50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, July 21, 2011 10:02:38 AM

Work Order ID: 72291

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 200 Each 1,452.000 50 50



BOLT



11/08/30

Location

Loc Qty

Loc Code

ST350

1452

M118628

X50

117313

2

117688

388

117795

500

117872

22

118012

500

118112

40

AN960C10L NAS1149C0332 Purchased No

R



washer

D3566-13

Manufactured No



Gasket

200 Each 0.0000 50 50

M118306



X50 11/08/30

200 Each 19.0000 1 1



11/08/30

Location

Loc Qty

Loc Code

FP

18

69281

18

X1

FP014

1

68341

1

D3566-5 Manufactured No



Gasket

200 Each 18.0000 1 1



11/08/30

Location

Loc Qty

Loc Code

FP015

18

68961

6

B372849

X1

71601

12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, July 21, 2011 10:02:39 AM

Work Order ID: 72291

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-1 Manufactured No

200 Each

28.0000

2

2



Gasket



u1108130

Location

Loc Qty

Loc Code

FP011

26

B72848

70769

14

x2

71580

12

FP015

2

68924

2

D3564-11 Manufactured No

200 Each

12.0000

1

1



Wearshoe



u1108130

Location

Loc Qty

Loc Code

FP019

12

67591

12

B72207

x1

D3564-13 Manufactured No

200 Each

20.0000

1

1



Wearshoe



u1108130

Location

Loc Qty

Loc Code

FP016

9

69280 next!

9

x1

FP017

11

71594

11

D3564-9 Manufactured No

200 Each

14.0000

1

1



Wearshoe



u1108130

Location

Loc Qty

Loc Code

FP019

14

67590

4

B72208

y1

69943

10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Thursday, July 21, 2011 10:02:39 AM

Work Order ID: 72291

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 7/21/2011

Required Date: 8/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200 Each

17.0000

1

1



ll 4/08/30

Wearshoe

Location

Loc Qty

Loc Code

FG

2

B72164

yl

34806

2

FP019

15

70864

15

D2594-3

Manufactured No

200 Each

740.0000

16

16



ll 11/08/30

O-Ring, 205 Skidtube

Location

Loc Qty

Loc Code

FP-A

740

65518

54

66952

686

x16

D2594-1

Manufactured No

200 Each

201.0000

16

16



ll 11/08/30

Plug, 205 Skidtube

Location

Loc Qty

Loc Code

FP-A

201

42807

28

67441

7

68943

166

D72127

x16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY SCALE NTS	
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07.06.28 *[Signature]*

DEO ATTACHED
UNDER REVIEW

P110670
RMV *P11.06.70*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *72291*

P11-07-21

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

Copyright © 1996 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

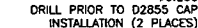
• **NOTE:** Date & initial all entries

SCALE 5:24



07.06.28

RMV 4/11.06.30



SCAIF 5:24

SCALE 5-24



PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

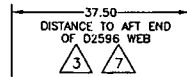
;) FINISH: ACID

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

NO. 72291

11-07-71

D2580-1 DRILLING DETAIL



~~UNDER REVIEW~~

KMV 4.12.06.30

D2580-1 BENDING AND CUTTING DETAIL





D2580-041 ASSEMBLY DETAIL




COPYRIGHT © 1998 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE LTD.

DESIGN	
CHECKED	
DATE	07.02.27

DRAWN BY	PH
APPROVED	[Signature]

		DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA	
DRAWING NO. D2580		REV. SHEET 2 OF 2	
TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:1	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

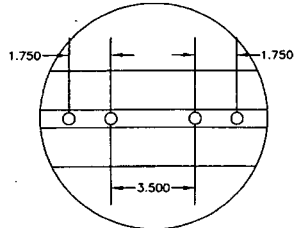
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

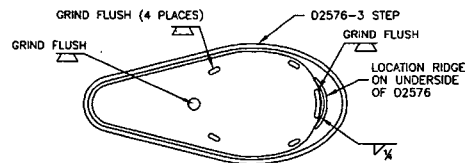
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL E
SCALE 5:24



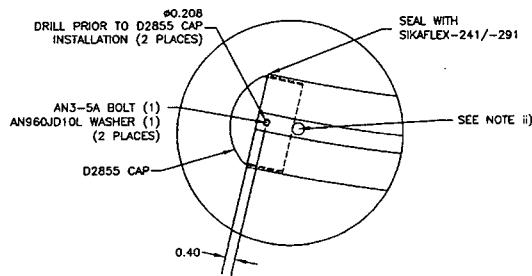
DETAIL F
SCALE 5:24



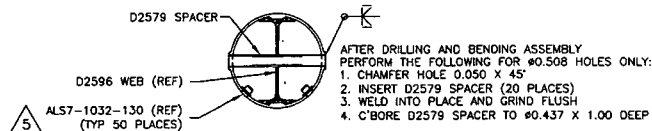
RELEASED
07-16-18

DEO ATTACHED
RmV 4/24/20

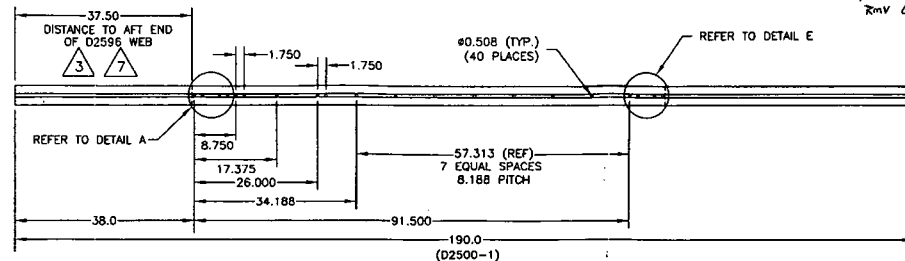
DETAIL G
SCALE 5:24



SECTION H-H
SCALE 5:24



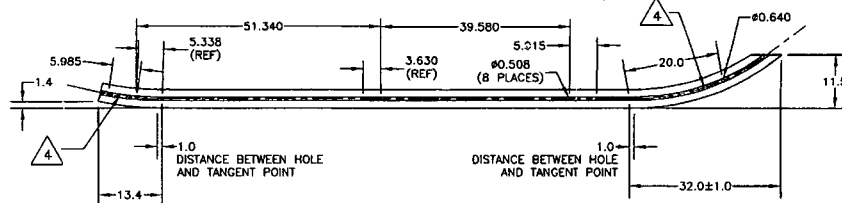
D2580-1 DRILLING DETAIL



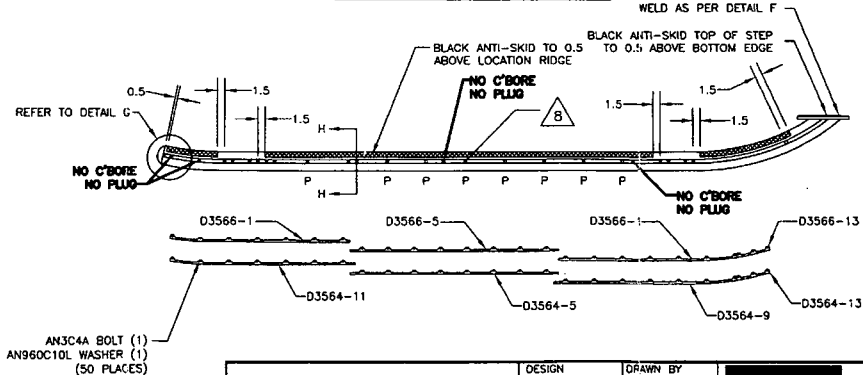
UNDER REVIEW

11.06.30
RmV 4/11/20

D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

COPYRIGHT © 1996 BY DART AEROSPACE LTD.		DESIGN RH	DRAWN BY RH	DART DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA	REV. D
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED H	APPROVED H	DRAWING NO. D2580	SHEET 3 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY		SCALE 1:24	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 262

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: B71946
Part number: D205 634 041
Description: 205
Welding Process: Tig ☒ Mig ☐
Base material: Aluminium
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Sal. Burns Date of Test Coupon 11.08.11
Welder Barclay Elliott Date of Test Coupon 11.08.11

The above named individual is qualified in accordance with AWS D17.1.2001 to weld